

#10

Antibodies as Chimeric Effector Cell.ST25



SEQUENCE LISTING

<110> Junghans, Richard P.

<120> Antibodies as Chimeric Effector Cell Receptors Against Tumor Antigen

<130> 003

<140> 10/006,773

<141> 2001-10-12

<150> 60/250,089

<151> 2000-11-30

<160> 19

<170> PatentIn version 3.1

<210> 1

<211> 7654

<212> DNA

<213> Homo sapiens and Mus sp.

<220>

<221> CDS

<222> (2428)..(3759)

<223> Chimeric IgTCR sequence contained in retroviral vector. Retroviral vector sequence (non-coding regions) are incidental to the invention. The translated (coding region) is relevant to the invention. (pertinent to Figure 3.)

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Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr	
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tgt aag gcc agt cag gat gtg ggt act tct gta gct tgg tac cag cag	2598
Cys Lys Ala Ser Gln Asp Val Gly Thr Ser Val Ala Trp Tyr Gln Gln	
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Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Trp Thr Ser Thr Arg	
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cac act ggt gtg cca agc aga ttc agc ggt agc ggt acc gac	2694
His Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Thr Asp	
75 80 85	
ttc acc ttc acc atc agc agc ctc cag cca gag gac atc gcc acc tac	2742
Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr	
90 95 100 105	
tac tgc cag caa tat agc ctc tat cgg tcg ttc ggc caa ggg acc aag	2790
Tyr Cys Gln Gln Tyr Ser Leu Tyr Arg Ser Phe Gly Gln Gly Thr Lys	

Antibodies as Chimeric Effector Cell.ST25

110	115	120	
gtg gaa atc aaa cga ggt ggc tca gga tcg ggt gga tcc ggc tct ggt Val Glu Ile Lys Arg Gly Gly Ser Gly Ser Gly Ser Gly Ser Gly			2838
125 130 135			
ggc tca gga tcg gag gtc caa ctg gtg gag agc ggt gga ggt gtt gtg Gly Ser Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Val Val			2886
140 145 150			
caa cct ggc cg ^g tcc ctg cgc ctg tcc tgc tcc gca tct ggc ttc gat Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Asp			2934
155 160 165			
ttc acc aca tat tgg atg agt tgg gtg aga cag gca cct gga aaa ggt Phe Thr Thr Tyr Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly			2982
170 175 180 185			
ctt gag tgg att gga gaa att cat cca gat agc agt acg att aac tat Leu Glu Trp Ile Gly Glu Ile His Pro Asp Ser Ser Thr Ile Asn Tyr			3030
190 195 200			
gcg ccg tct cta aag gat aga ttt aca ata tcg cga gac aac gcc aag Ala Pro Ser Leu Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys			3078
205 210 215			
aac aca ttg ttc ctg caa atg gac agc ctg aga ccc gaa gac acc ggg Asn Thr Leu Phe Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly			3126
220 225 230			
gtc tat ttt tgt gca agc ctt tac ttc ggc ttc ccc tgg ttt gct tat Val Tyr Phe Cys Ala Ser Leu Tyr Phe Gly Phe Pro Trp Phe Ala Tyr			3174
235 240 245			
tgg ggc caa ggg acc ccg gtc acc gtc tcc agt gct aag ccc acc acc Trp Gly Gln Gly Thr Pro Val Thr Val Ser Ser Ala Lys Pro Thr Thr			3222
250 255 260 265			
acg cca gcg ccg cga cca aca ccg gcg ccc acc atc gcg tcg cag Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln			3270
270 275 280			
ccc ctg tcc ctg cgc cca gag gcg gct cgg cca gcg gcg ggg ggc gca Pro Leu Ser Leu Arg Pro Glu Ala Ala Arg Pro Ala Ala Gly Gly Ala			3318
285 290 295			
gtg cac acg agg ggg ctg gac ttc gcc ctg gat ccc aaa ctc tgc tac Val His Thr Arg Gly Leu Asp Phe Ala Leu Asp Pro Lys Leu Cys Tyr			3366

Antibodies as Chimeric Effector Cell.ST25

300	305	310	
ctg ctg gat gga atc ctc ttc atc tat ggt gtc att ctc act gcc ttg Leu Leu Asp Gly Ile Leu Phe Ile Tyr Gly Val Ile Leu Thr Ala Leu 315 320 325			3414
ttc ctg aga gtg aag ttc agc agg agc gca gag ccc ccc gcg tac cag Phe Leu Arg Val Lys Phe Ser Arg Ser Ala Glu Pro Pro Ala Tyr Gln 330 335 340 345			3462
cag ggc cag aac cag ctc tat aac gag ctc aat cta gga cga aga gag Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu 350 355 360			3510
gag tac gat gtt ttg gac aag aga cgt ggc cgg gac cct gag atg ggg Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly 365 370 375			3558
gga aag ccg aga agg aag aac cct cag gaa ggc ctg tac aat gaa ctg Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu 380 385 390			3606
cag aaa gat aag atg gcg gag gcc tac agt gag att ggg atg aaa ggc Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly 395 400 405			3654
gag cgc cgg agg ggc aag ggg cac gat ggc ctt tac cag ggt ctc agt Glu Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser 410 415 420 425			3702
aca gcc acc aag gac acc tac gac gcc ctt cac atg cag gcc ctg ccc Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro 430 435 440			3750
cct cgc taa ctgcgacgcgg ccgcggatcc ggatttagtcc aatttgtaaa Pro Arg			3799
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Antibodies as Chimeric Effector Cell.ST25

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<211> 443

<212> PRT

<213> Homo sapiens and Mus sp.

<400> 2

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Val His Ser Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala
20 25 30
Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val
35 40 45
Gly Thr Ser Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys

Gly Thr Ser Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
50 55 60

Antibodies as Chimeric Effector Cell.ST25

Leu Leu Ile Tyr Trp Thr Ser Thr Arg His Thr Gly Val Pro Ser Arg
65 70 75 80

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser
85 90 95

Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Leu
100 105 110

Tyr Arg Ser Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly
115 120 125

Ser Gly Ser Gly Gly Ser Gly Ser Gly Ser Gly Ser Glu Val Gln
130 135 140

Leu Val Glu Ser Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
145 150 155 160

Leu Ser Cys Ser Ala Ser Gly Phe Asp Phe Thr Thr Tyr Trp Met Ser
165 170 175

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile
180 185 190

His Pro Asp Ser Ser Thr Ile Asn Tyr Ala Pro Ser Leu Lys Asp Arg
195 200 205

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe Leu Gln Met
210 215 220

Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys Ala Ser Leu
225 230 235 240

Tyr Phe Gly Phe Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Pro Val
245 250 255

Antibodies as Chimeric Effector Cell.ST25

Thr Val Ser Ser Ala Lys Pro Thr Thr Pro Ala Pro Arg Pro Pro
260 265 270

Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu
275 280 285

Ala Ala Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp
290 295 300

Phe Ala Leu Asp Pro Lys Leu Cys Tyr Leu Leu Asp Gly Ile Leu Phe
305 310 315 320

Ile Tyr Gly Val Ile Leu Thr Ala Leu Phe Leu Arg Val Lys Phe Ser
325 330 335

Arg Ser Ala Glu Pro Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr
340 345 350

Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys
355 360 365

Arg Arg Gly Arg Asp Pro Glu Met Gly Lys Pro Arg Arg Lys Asn
370 375 380

Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu
385 390 395 400

Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Gly Lys Gly
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His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr
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Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
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<210> 3
<211> 504
<212> DNA
<213> Mus sp.

<220>
<221> CDS
<222> (6)..(425)
<223> MB3.6 Heavy chain V region, plus leader

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Antibodies as Chimeric Effector Cell.ST25

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<212> PRT
<213> Mus sp.

<400> 4

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20 25

Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ala Gly Phe Thr Phe 45
35 40

Ser Arg Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu 60
50 55

Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser His Thr Tyr Tyr Pro 80
65 70 75

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn 95
85 90

Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Ile 110
100 105

Tyr Tyr Cys Ala Arg Pro Gly Tyr Asp Arg Gly Ala Trp Phe Phe Asp 125
115 120

Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser 140
130 135

<210> 5
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<223> MB3.6 Light chain V region, plus leader

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10	
ttt tgg att tca gcc tcc aga ggt gat att gtg cta act cag tct cca	99
Phe Trp Ile Ser Ala Ser Arg Gly Asp Ile Val Leu Thr Gln Ser Pro	
15 20 25	
gcc acc ctg tct gtg act cca gga gat agc gtc agt ctt tcc tgc agg	147
Ala Thr Leu Ser Val Thr Pro Gly Asp Ser Val Ser Leu Ser Cys Arg	
30 35 40	
gcc agc caa att att agc aac aac cta cac tgg tatcaa caa aaa tca	195
Ala Ser Gln Ile Ile Ser Asn Asn Leu His Trp Tyr Gln Gln Lys Ser	
45 50 55 60	
cat gag tct cca agg ctt ctc atc aag tat gct tcc cag tcc atc tct	243
His Glu Ser Pro Arg Leu Leu Ile Lys Tyr Ala Ser Gln Ser Ile Ser	
65 70 75	
ggg atc ccc tcc agg ttc agt ggc agt gga tca ggg aca gat ttc act	291
Gly Ile Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr	
80 85 90	
ctc agt atc aac agt gtg gag act gaa gat ttt gga atg tat ttc tgt	339
Leu Ser Ile Asn Ser Val Glu Thr Glu Asp Phe Gly Met Tyr Phe Cys	
95 100 105	
caa cag agt aac agc tgg cct ctc acg ttc ggc tcg ggg aca aag ctg	387
Gln Gln Ser Asn Ser Trp Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu	
110 115 120	
gag atc aaa cg ^g cgtaagtgtg tcagggtttc acaagaggga ctaaagacat	439
Glu Ile Lys Arg	
125	

483

gtcagctaat gtgtgactaa tggtaatgtc acttgcagg atcc

<210> 6
<211> 128
<212> PRT
<213> Mus sp.

<400> 6

Met	Val	Phe	Thr	Pro	Gln	Ile	Leu	Gly	Leu	Met	Leu	Phe	Trp	Ile	Ser
1														15	

Ala	Ser	Arg	Gly	Asp	Ile	Val	Leu	Thr	Gln	Ser	Pro	Ala	Thr	Leu	Ser
														30	

Val	Thr	Pro	Gly	Asp	Ser	Val	Ser	Leu	Ser	Cys	Arg	Ala	Ser	Gln	Ile
														45	

Ile	Ser	Asn	Asn	Leu	His	Trp	Tyr	Gln	Gln	Lys	Ser	His	Glu	Ser	Pro
														50	

Arg	Leu	Leu	Ile	Lys	Tyr	Ala	Ser	Gln	Ser	Ile	Ser	Gly	Ile	Pro	Ser
														60	

Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Ser	Ile	Asn
														95	

Ser	Val	Glu	Thr	Glu	Asp	Phe	Gly	Met	Tyr	Phe	Cys	Gln	Gln	Ser	Asn
														110	

Ser	Trp	Pro	Leu	Thr	Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg
														125	

<210> 7
<211> 258
<212> DNA
<213> Mus sp.

<220>

<221> misc_feature

<222> (1)..(258)

<223> Light chain leader plus sFv of MB3.6

<400> 7	60
gatatcagat ctcagctgtc tagacatatg gtttcacac ctcagatann nnnnnnnnnn	
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngggac aaagctggag	120
atcaaagggtg gctcaggatc gggtaggacc ggctctggtg gctcaggatc ggaagtggtg	180
gtggtagagn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnacc	240
acggtcaccg tctccagt	258

<210> 8

<211> 682

<212> DNA

<213> Mus sp.

<220>

<221> CDS

<222> (20)..(418)

<223> 3D8 Heavy chain V region, plus leader

<400> 8	52
tgaacacgga cccctcacc atg aac ttc ggg ctc agc ttg att ttc ctt gtc	
Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val	
1 5 10	
ctt gtt tta aaa ggt gtc cag tgt gaa gtg aag gtg gtg gag tct ggg	100
Leu Val Leu Lys Gly Val Gln Cys Glu Val Lys Val Val Glu Ser Gly	
15 20 25	
gga ggc tta gtg aag cct gga gcg tct ctg aaa ctc tcc tgt gca gcc	148
Gly Leu Val Lys Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala	
30 35 40	
tct gga ttc act ttc agt aac tat ggc atg tct tgg gtt cgc cag act	196
Ser Gly Phe Thr Phe Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr	
45 50 55	
tca gac aag agg ctg gag tgg gtc gca tcc att agt agt ggt ggt gat	244
Ser Asp Lys Arg Leu Glu Trp Val Ala Ser Ile Ser Ser Gly Gly Asp	
60 65 70 75	

Antibodies as Chimeric Effector Cell.ST25

agc acc ttc tat gca gac aat gta aag ggc cga ttc acc atc tcc aga Ser Thr Phe Tyr Ala Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg 80	292
gag aat gcc aag aac acc ctg tac ctg caa atg agt agt ctg aag tct Glu Asn Ala Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser 95	340
gag gac acg gcc ttg tat tac tgt gca aga gac gat cta ttt aac tgg Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg Asp Asp Leu Phe Asn Trp 110	388
ggc caa ggc acc act ctc aca gtc tca tca gccaaaacaa cagccccatc Gly Gln Gly Thr Thr Leu Thr Val Ser Ser 125	438
ggcttatcca ctggcccttg tgtgtggaga tacaattggc tcctcggtga cttaggatg cctggtcaag ggttatttcc ttgagccagt gaccttgacc tggaactctg gatccctgtc cagtggtgtg cacatcttcc cagctgtctt gcagtgatc ctctacacccc tcagcagctc agtgaactgta acctcgagca cctggccag ccagtccatc acttgcaatg tggcccaccc 682	498
ggca	558
	618
	678

<210> 9
<211> 133
<212> PRT
<213> Mus sp.

<400> 9
Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Val Leu Lys Gly
1 5 10 15

Val Gln Cys Glu Val Val Val Glu Ser Gly Gly Gly Leu Val Lys
20 25 30

Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr Ser Asp Lys Arg Leu

50	55	60	
Glu Trp Val Ala Ser Ile Ser Ser Gly Gly Asp Ser Thr Phe Tyr Ala			
65	70	75	80
Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn			
	85	90	95
Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu			
	100	105	110
Tyr Tyr Cys Ala Arg Asp Asp Leu Phe Asn Trp Gly Gln Gly Thr Thr			
	115	120	125
Leu Thr Val Ser Ser			
	130		
<210> 10			
<211> 729			
<212> DNA			
<213> Mus sp.			
<220>			
<221> CDS			
<222> (15)..(410)			
<223> 3D8 Light chain V region, plus leader			
<400> 10			50
ccgttgcgt cgtg atg agt cct gcc cag ttc ctg ttt ctg tta gtg ctc			
Met Ser Pro Ala Gln Phe Leu Phe Leu Leu Val Leu			
1	5	10	
tgg att cag gaa acc aac ggt gat gtt gta atg acc cag act cca ctc			98
Trp Ile Gln Glu Thr Asn Gly Asp Val Val Met Thr Gln Thr Pro Leu			
15	20	25	
act ttg tcg gtt acc att gga caa cca gcc tct atc tct tgc aag tca			146
Thr Leu Ser Val Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser			
30	35	40	
agt cag agc ctc tta tat agt aat gga aaa acc tat ttg aat tgg tta			194

Antibodies as Chimeric Effector Cell.ST25

Ser Gln Ser Leu Leu Tyr Ser Asn Gly Lys Thr Tyr Leu Asn Trp Leu	60		
45	50	55	
tta cag agg cca ggc cag tct cca aag cgc cta atc tat ctg gtg tct	242		
Leu Gln Arg Pro Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser			
65	70	75	
aaa ctg gac tct gga gtc cct gac agg ttc act ggc agt gga tca gga	290		
Lys Leu Asp Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly			
80	85	90	
aca gat ttt aca ctg aaa atc agc aga gtg gag gct gag gat ttg gga	338		
Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly			
95	100	105	
gtt tat tac tgc gtg caa ggt aca cat ttt cct cac acg ttc gga ggg	386		
Val Tyr Tyr Cys Val Gln Gly Thr His Phe Pro His Thr Phe Gly Gly			
110	115	120	
ggg acc aag ctg gaa ata aaa cgg gctgatgctg caccaactgt atccatcttc	440		
Gly Thr Lys Leu Glu Ile Lys Arg			
125	130		
ccaccatcca gtgagcagg aacatctgga ggtgccttag tcgtgtgctt cttgaacaac	500		
ttctacccca aagacatcaa tgtcaagtgg aagattgatg gcagtgaacg acaaaatggc	560		
gtcctgaaca gttggactga tcaggacagc aaagacagca cctacagcat gagcagcacc	620		
ctcacgttga ccaaggacga gtatgaacga cataacagct atacctgtga ggccactcac	680		
aagacatcaa cttcacccat tgtcaagagc ttcaacagga atgagtgtt	729		

<210> 11
<211> 132
<212> PRT
<213> Mus sp.

<400> 11
Met Ser Pro Ala Gln Phe Leu Phe Leu Leu Val Leu Trp Ile Gln Glu
1 5 10 15

Thr Asn Gly Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val
20 25 30

Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu
 35 40 45

Leu Tyr Ser Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro
50 55 60

Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser
 65 70 75 80

Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys
 100 105 110

Val Gln Gly Thr His Phe Pro His Thr Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Glu Ile Lys Arg
130

<210> 12
<211> 736
<212> DNA
<213> Mus sp.

<220>
<221> CDS
<222> (14)..(430)
<223> 4D4 Heavy chain V region, plus leader

<400> 12
actgactcta acc atg gga tgg aga tgg atc ttt ctt ttc ctc ctc ctg tca
Met Gly Trp Arg Trp Ile Phe Leu Phe Leu Leu Ser
1 5 10

gga act gca ggt gtc cat tgc cag gtt cag ctg cag cag tct gga cct
 Gly Thr Ala Gly Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro
 15 20 25

Antibodies as Chimeric Effector Cell.ST25

gag ctg gtg aag cct ggg gct tta gtg aag ata tcc tgc aag gct tct Glu Leu Val Lys Pro Gly Ala Leu Val Lys Ile Ser Cys Lys Ala Ser	145
30 35 40	
ggt tac acc ttc aca agc tac gat ata aac tgg gtg aag cag agg cct Gly Tyr Thr Phe Thr Ser Tyr Asp Ile Asn Trp Val Lys Gln Arg Pro	193
45 50 55 60	
gga cag gga ctt gag tgg att gga tgg att tat cct gga gat ggt ggt Gly Gln Gly Leu Glu Trp Ile Gly Trp Ile Tyr Pro Gly Asp Gly Gly	241
65 70 75	
act aat tac aat gag aaa ttc aag ggc aag gcc aca ctg act gca gac Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp	289
80 85 90	
aaa tcc tcc agc aca gcc tac atg cag ctc agt agc ctg act tct gag Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu	337
95 100 105	
aac tct gca gtc tat ttc tgt gca aga ggg ggt aac ttc cct tct tat Asn Ser Ala Val Tyr Phe Cys Ala Arg Gly Asn Phe Pro Ser Tyr	385
110 115 120	
gct atg gac tac tgg ggt caa gga acc tca gtc acc gtc tcc tca Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser	430
125 130 135	
gccaaaaacga cacccccatc tgttatcca ctggccctg gatctgctgc ccaaactaac	490
tccatggta ccccggtatc cctggtaag ggctatttcc ctgagccagt gacagtgacc	550
tggaactctg gatccctgtc cagcggtgtc cacacccccc cagctgtcct gcagtctgac	610
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggccctg cgagaccgtc	670
acctgcaacg ttgccccaccc ggccagcagc accaagggtgg acaagaaaat tgtgcccagg	730
736	
gatttgt	

<210> 13
<211> 139
<212> PRT
<213> Mus sp.

<400> 13

Met Gly Trp Arg Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
1 5 10 15

Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys
20 25 30

Pro Gly Ala Leu Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Ser Tyr Asp Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu
50 55 60

Glu Trp Ile Gly Trp Ile Tyr Pro Gly Asp Gly Gly Thr Asn Tyr Asn
65 70 75 80

Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser
85 90 95

Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asn Ser Ala Val
100 105 110

Tyr Phe Cys Ala Arg Gly Gly Asn Phe Pro Ser Tyr Ala Met Asp Tyr
115 120 125

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
130 135

<210> 14
<211> 504
<212> DNA
<213> Mus sp.

<220>
<221> CDS
<222> (7)..(402)
<223> 4D4 Light chain V region, plus leader

Antibodies as Chimeric Effector Cell.ST25

<400> 14	48
ctcaaa atg aag ttg cct gtt agg ctg ttg gtg ctg atg ttc tgg att Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile	
1 5 10	
cct gct tcc aac agt gat gtt ttg atg acc caa tct cca ctc tcc ctg Pro Ala Ser Asn Ser Asp Val Leu Met Thr Gln Ser Pro Leu Ser Leu	96
15 20 25 30	
cct gtc agt ctt gga gat caa gcc tcc atc tct tgc aga tct agt cag Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln	144
35 40 45	
agc att gtc cat agt aat gga gac acc tat tta gaa tgg tac ctg cag Ser Ile Val His Ser Asn Gly Asp Thr Tyr Leu Glu Trp Tyr Leu Gln	192
50 55 60	
aaa cca ggc cag tct cca aag ctc ctg atc tac aag gtt tcc gac cga Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg	240
65 70 75	
ttt tct ggg gtc cca gac agg ttc agt ggc agt gga tca ggg aca gat Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp	288
80 85 90	
ttc aca ctc aag atc agc aga gtg gag gct gag gat ctg gga gtt tat Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr	336
95 100 105 110	
ttc tgc ttt caa ggt tca cat gtt ccg tac gcg ttc gga ggg ggg acc Phe Cys Phe Gln Gly Ser His Val Pro Tyr Ala Phe Gly Gly Thr	384
115 120 125	
aag ctg gaa ata aaa cgg gctgatgctg caccaactgt atccatcttc Lys Leu Glu Ile Lys Arg	432
130	
ccaccatcca gtgagcagtt aacatctgga ggtgcctcag tcgtgtgctt cttgaacaac	492
504	
ttctacccca aa	

<210> 15
<211> 132
<212> PRT
<213> Mus sp.

<400> 15

Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1 5 10 15

Ser Asn Ser Asp Val Leu Met Thr Gln Ser Pro Leu Ser Leu Pro Val
20 25 30

Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
35 40 45

Val His Ser Asn Gly Asp Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro
50 55 60

Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser
65 70 75 80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys
100 105 110

Phe Gln Gly Ser His Val Pro Tyr Ala Phe Gly Gly Thr Lys Leu
115 120 125

Glu Ile Lys Arg
130

<210> 16
<211> 761
<212> DNA
<213> Mus sp.

<220>
<221> CDS
<222> (62)..(478)
<223> 3E11 Heavy chain V region, plus leader

Antibodies as Chimeric Effector Cell.ST25

<400>	16		60			
cctggattca	atttccagtt	cctcacattc	agtgatcagc	actgaacacg	gaccgcctcac	
c atg aac ttc ggg ctc agc ttg att ttc ctt gtc ctt gtt tta aaa ggt						109
Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Val Leu Lys Gly						
5		10			15	
1						
gtc cag tgt gaa gtg aaa ctg gtg gag tct ggg gga gac tta atg aac						157
Val Gln Cys Glu Val Lys Leu Val Glu Ser Gly Gly Asp Leu Met Asn						
20		25			30	
cct gga gcg tct ctg aaa ctc tcc tgt gca gcc tct gga ttc agt ttc						205
Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe						
35		40			45	
agt aac tat ggc atg tct tgg gtt cgc cag act tca gac aag agg ctg						253
Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr Ser Asp Lys Arg Leu						
50		55			60	
gag tgg gtc gct tcc att agt acg ggt gct aat acc ttc tat cca						301
Glu Trp Val Ala Ser Ile Ser Thr Gly Gly Ala Asn Thr Phe Tyr Pro						
65		70			75	
gac aat gta aag ggc cga ttc acc att tcc aga gag aat gcc aag aac						349
Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn						
85		90			95	
acc cta tac ctg caa atg agt agt ctg aag tct gag gac acg gcc ttg						397
Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu						
100		105			110	
tat ttc tgt gca aga gat agt cac tcc gta ggt tgt tgg ttt gct acc						445
Tyr Phe Cys Ala Arg Asp Ser His Ser Val Gly Cys Trp Phe Ala Thr						
115		120			125	
tgg ggc caa ggg act ctg gtc act gtc tct gca gccaaaacaa caccggccatc						498
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala						
130		135				
agtctatcca ctggccccctg ggtgtggaga tactacttgt tcctccgtga ctctggatg						558
cctggtaag ggctacttcc ctgagtcagt gactgtgact tggaaactccg gatccctgcc						618
cacacccccc cagctctcc cagtcgttgc ctctacacta tgagcagctc						678
agtgactgtc ccctccagca cctggccaag ccagaccgtt acctgcagtg ttgctcaccc						738
agccagcagc accacgggtgg aca						761

Antibodies as Chimeric Effector Cell.ST25

<210> 17
<211> 139
<212> PRT
<213> Mus sp.

<400> 17

Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Val Leu Lys Gly
1 5 10 15
Val Gln Cys Glu Val Lys Leu Val Glu Ser Gly Gly Asp Leu Met Asn
20 25 30
Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe
35 40 45
Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr Ser Asp Lys Arg Leu
50 55 60
Glu Trp Val Ala Ser Ile Ser Thr Gly Gly Ala Asn Thr Phe Tyr Pro
65 70 75 80
Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn
85 90 95
Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu
100 105 110
Tyr Phe Cys Ala Arg Asp Ser His Ser Val Gly Cys Trp Phe Ala Thr
115 120 125
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
130 135

<210> 18
<211> 698
<212> DNA

<213> Mus sp.

<220>

<221> CDS

<222> (6) .. (401)

<222> (.,.) . Light chain V region, plus leader

Antibodies as Chimeric Effector Cell.ST25

gttggactga tcaggacagc aaagacagca cctacagcat gagcagcacc ctcacggtga 621
ccaaggacga gtagaacga cataacagct atacctgtga ggccactcac aagacatcaa 681
cttcacccat cgtaag 698

<210> 19
<211> 132
<212> PRT
<213> Mus sp.

<400> 19
Met Gly Ile Lys Met Glu Ser Gln Thr Leu Val Phe Ile Ser Ile Leu
1 5 10 15
Leu Trp Leu Tyr Gly Ala Asp Gly Asn Ile Val Met Thr Gln Ser Pro
20 25 30

Lys Ser Met Ser Met Ser Val Gly Glu Arg Val Thr Leu Thr Cys Lys
35 40 45
Ala Ser Glu Asn Val Val Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro
50 55 60

Glu Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Arg Tyr Thr
65 70 75 80
Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Ala Thr Asp Phe Thr

85 90 95
Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Asp Tyr His Cys
100 105 110
Gly Gln Gly Tyr Ser Tyr Pro Tyr Thr Phe Gly Gly Thr Lys Leu

115 120 125
Glu Ile Lys Arg

Antibodies as Chimeric Effector Cell. ST25

130